

CLAIMS

What is claimed is:

[C001] 1. A method for reducing negative torque in a brushless single phase DC motor, the method comprising:

initiating the motor in a normal mode of operation; and
activating an ON time control to cut off a voltage supply to the motor,
wherein the ON time control being applied after a predetermined time delay defined by the motor parameters.

[C002] 2. The method of claim 1 further comprising:

using a positional sensor for producing a sensor signal based on polarity of a rotor of the motor; and

using the sensor signal for controlling a plurality of switches for commutation of the motor.

[C003] 3. The method of claim 2, wherein the activating of the ON time control is synchronized with an edge of the sensor signal.

[C004] 4. The method of claim 1 further comprising varying the ON time control (34) to achieve a plurality of speeds of operation for the motor.

[C005] 5. The method of claim 1, wherein duration of the ON time control is predetermined based on a required speed of operation.

[C006] 6. The method of claim 5, wherein the required speed of operation corresponds to a discrete speed.

[C007] 7. The method of claim 5, wherein the required speed of operation corresponds to a continuous range of speeds.

[C008] 8. A system for controlling negative torque in a brushless DC motor, the system comprising:

a positional sensor for producing a sensor signal based on polarity of a rotor of the motor; and

a control circuitry for activating an ON-time control to cut-off a voltage supply to the motor,

wherein the activating of the ON-time control is synchronized with an edge of the sensor signal.

[C009] 9. The system of claim 8 further comprising a commutation circuitry, wherein the commutation circuitry uses the sensor signal for controlling a plurality of switches for commutation of the motor.

[C010] 10. The system of claim 8, wherein the ON-time control is varied to achieve a plurality of speeds.

[C011] 11. The system of claim 8, wherein a duration of the ON time control is defined by the motor parameters.

[C012] 12. The system of claim 8, wherein the duration of ON time control is predetermined based on a required speed of operation.

[C013] 13. The system of claim 8, wherein the required speed of operation corresponds to a discrete speed.

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[C014] 14. The system of claim 8, wherein the required speed of operation corresponds to a continuous range of speeds.

[C015] 15. A HVAC system comprising:
a single phase brushless DC motor with an ON time control for varying a speed of the motor based on a plurality of temperature measurements; and
at least one temperature sensor for measuring an ambient temperature.

[C016] 16. The system of claim 15, wherein the speed of the motor is varied corresponding to each one of the plurality of the temperature measurements.

[C017] 17. The system of claim 15, wherein the ON time control is manual.

[C018] 18. The system of claim 15, wherein the ON time control is automatic.

[C019] 19. The system of claim 15, wherein the ON time control cuts off voltage supply to the motor.